Transit

Vancouver's public transit in 2003

C-TRAN has provided public transit service for Clark County since 1982. Services include bus routes, carpools, vanpools, paratransit mobility and a Bike & Bus program. A detailed description of C-TRAN's services, facilities, and equipment is in the *Transit Development Plan 2002-2008* (2002), which is hereby incorporated by reference. **Figure 5-6** on page 5-22 shows existing fixed-route transit service.

There are three transit centers (Downtown, Westfield/Vancouver Mall, and Fisher's Landing) and seven park-and-ride lots (Salmon Creek, Evergreen, BPA Ross Complex, Fisher's Landing, K Mart on Andresen, Battle Ground, and Camas/Washougal). The park-and-ride lots have a total of 1,600 parking spaces. Some of the facilities are operated under site-use lease agreements. All of the transit centers and park-and-ride lots, except Camas/Washougal, have shelters and benches. All have bicycle facilities except BPA, Westfield/Vancouver Mall, and Camas/Washougal. All fixed-route buses have onboard bike racks. Evergreen and Fisher's Landing transit centers have public restrooms. A total of about 220 shelters and benches are provided.

Direction for the future

Six-year plan: 2002-2008. Rapid population growth, increased traffic congestion, and limited funding all affect C-TRAN's ability to maintain service levels and plan for the future. Voters eliminated the Motor Vehicle Excise Tax in 2000, reducing C-TRAN's funding by 40 percent and forcing the agency to use reserves to maintain operations. Over the next six years, C-TRAN must reduce costs by reducing services, despite increasing transit demand, unless additional funding is provided. The agency is reviewing its operations for efficiency and is considering seeking additional sources of revenue. **Table 5-6** shows projected cuts in hours and ridership as a result of funding cuts.

Short-term financial stability is ensured through an ongoing process intended to maintain working capital equal to three months' operating expenses. Long-term financial stability will require fostering relationships and support among public and regional partners to maintain and, as appropriate, augment existing funding.

C-TRAN's fixed route, paratransit and vanpool transit services totaled over 370,000 operating hours in 2002, serving over 6.5 million passenger trips. Assuming funds are available, operating hours and passenger trips are projected to increase annually. Without additional funding, C-TRAN will need to reduce service and operat-

Table 5-6. Operational hours and ridership, 2002-2008.

	2002 base hours	2008 hours (estimated)	Increase (decrease)	Change
Operational hours	370,685	277,422	(93,263)	–25%
Total passenger trips	6,538,792	4,446,611	(2,092,181)	–32%

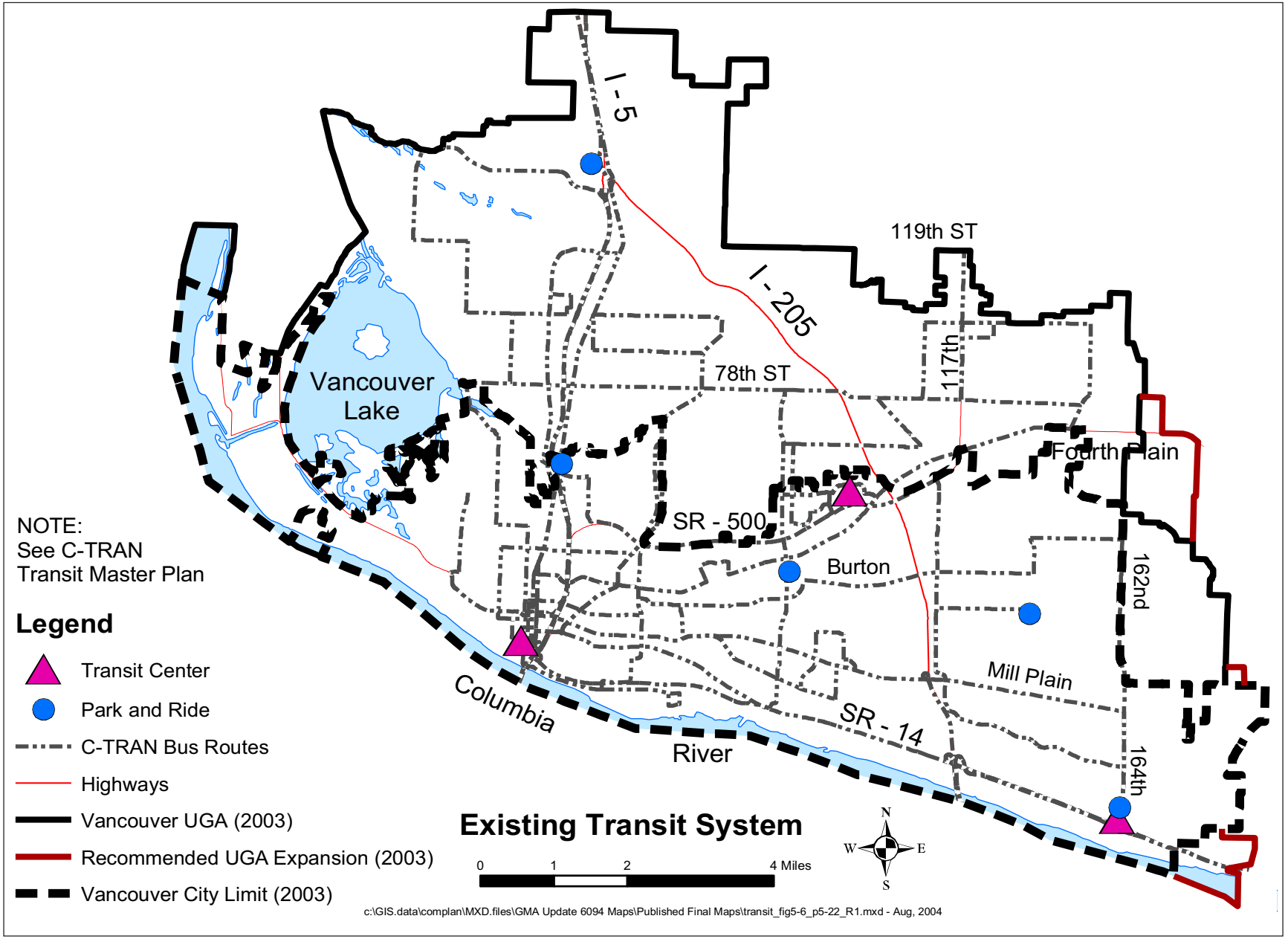

Figure 5-6. Existing transit system. Source: City of Vancouver GIS.

ing hours to match reduced income levels. Ridership will be reduced as a result of the lower service level. Transit services will remain at the reduced level without additional funding, and unable to expand in response to growth of travel demand in the City.

Fleet vehicles and support equipment will need to be added or replaced, and park-and-ride facilities added. The C-TRAN Transportation Improvement Program 2002-2008 proposes $49,461,402 in capital expenditures for equipment and facilities. This plan is based on an annual cycle intended to maintain service and support equipment and facility needs, and assumes that approximately 51 percent of the funding will come from local sources and approximately 48 percent from federal sources. Failure to find additional funding will likely require reducing services beginning in 2005.

Public water

The City of Vancouver Public Works Department provides potable water to the City of Vancouver and the eastern portion of the Vancouver Urban Growth Area (VUGA) north of the city limits. This area included approximately 196,000 residents at the time of the 2000 US Census. Clark Public Utilities (CPU) serves the western portion of the VUGA north of the city limits.

The Water Utility Coordinating Committee (WUCC) is composed of managers and technical officials from Clark County (including its health department), local communities and other water providers, and the Southwest Region of the Washington Health Department. The Clark County Coordinated Water System Plan (CWSP) was adopted in 1983 and most recently updated in 1999. The plan is updated every five years. The CWSP contains information about service areas and capacities for each jurisdiction and the entire county.

A complete facility inventory, analysis of capacity and need, and capital facilities program is provided in the adopted *City of Vancouver Water System Comprehensive Plan* (1996), which was updated by published amendment volumes in July 2003. Estimates of future population and distribution throughout the water service area were based on Transportation Analysis Zone (TAZ) population and employment projection data generated by the Regional Transportation Council (RTC).

Information about service areas and capacities is available in the July 2003 amendment of the *City of Vancouver Water System Comprehensive Plan*. Pipeline and system maintenance efforts and conservation programs have resulted in the average daily demand (ADD) for water remaining virtually unchanged since 1996 despite an almost 40 percent increase in served population. Since most changes to reduce water loss have been completed, ADD is likely to resume increasing as the City population grows.

Vancouver's public water supply in 2003

Inventory. Figure 5-7 on page 5-24 shows the Vancouver public water supply system. All water in the local system comes from groundwater sources. Water is stored in ten reservoirs or towers to maintain system pressure and provide for peak flow, fire flow, and standby flow. Water quality is ensured by ongoing monitoring and treatment of groundwater prior to delivery to the distribution system and, where needed, by five water treatment plants.

Table 5-7 on page 5-25 summarizes current production and future demand for the water system. The average daily system demand in 2002 was 26 million gallons per day (MGD), which is a

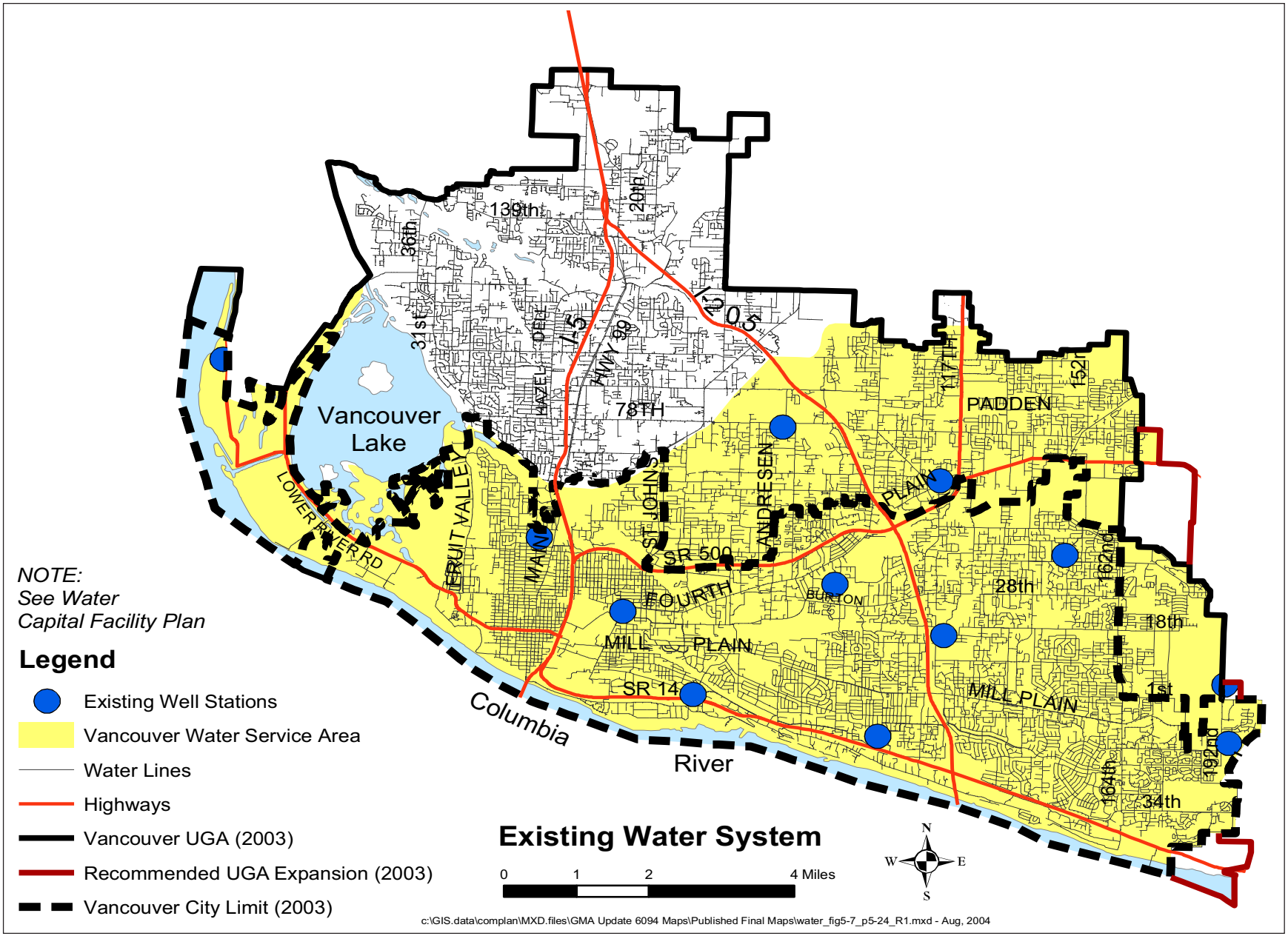

Figure 5-7. Existing water system. Source: City of Vancouver GIS.

Table 5-7. Water production and projected demand.

Category	1996* (actual)	2002 (actual)	2009 (projected)	2023 (projected)
Service area population (includes incorporated City and adjacent unincorporated areas)	146,184	203,000 (estimate*)	226,000*	273,000*
Average Daily Demand (ADD) in millions of gallons per day (MGD)	24.07	26.0	29	35
ADD/person, in gallons	165	128	128	128
Peak day demand in MGD	50	53	59	71
Number of wells	36	40	40	TBD**
Reliable well capacity in MGD	53	63	63	TBD**
Storage capacity in MG	24.5	24.5	24.5	TBD**
Primary water rights, annual daily average in MG	44.84	44.84	44.84	44.84
Primary water rights in billions of gallons per year	16.366	16.366	16.366	16.366

*Based on a projected population growth of 3,334 per year from 2000 to 2023; see the July 2003 update of *Vancouver Water System Comprehensive Plan*.

**To be determined

daily water use of approximately 128 gallons per person per day based on an estimated service area population of 203,000.

The City presently has 40 wells accessing groundwater. Vancouver has a total annual water right for withdrawal of 16.4 billion gallons per year, or an annual daily average of 44.84 MGD. Maximum instantaneous withdrawal allowed is 109.44 MGD at 76,000 gallons per minute.

Ideal design practice recommends that the source of supply be able to serve the maximum day demand (MDD), allowing stored water to be used for the daily peaking requirements of the system. Currently, the total peak reliable well capacity is 58 MGD. The peak day system demand in 2002 was 53 million gallons, or 261 gallons per person. If the average demand per person does not increase, the current water system will have sufficient capacity through 2013. However, to provide for uncertain growth patterns, and for redundancy of supply, new water rights and water sources need to be acquired and brought on line by 2009 to handle growth beyond 2009.

Some wells could produce more water than is currently extracted, but water rights regulate the total amount that can be taken from each well. In addition, finding aquifers that provide consistent, long-term water output can be difficult. Identifying additional water sources is essential to serve the growing population.

Fire flows. A water system is required to have a supply, storage, and distribution system grid with sufficient capacity to provide firefighting needs while maintaining maximum daily flows to residential and commercial customers. Because fire fighting requires a large amount of water in a short time, fire flow requirements typically determine the minimum size of water lines needed to serve an area, as well as the amount of storage needed.

The City of Vancouver's water delivery system

Photo by Pat Easley

provides fire hydrants and water distribution mains in neighborhoods and business areas throughout the water service area. Development requires new water mains and hydrants to serve new buildings, per the latest adopted version of the Uniform Fire Code and Vancouver Municipal Code.

Service standards. The Washington State Department of Health requires the water system to provide flows to satisfy peak hourly demands with pressures at no less than 30 psi (pounds per square inch) at all points in the distribution system (measured at any customer's water meter or at the property line if no meter exists), except for fire flow conditions. It is usually desirable to have pressures above 40 psi.

Direction for the future

Future demand. Future water demand calculations include population and water demand numbers for the entire Vancouver water service area, which includes not only the City but also the unincorporated service area designated in the Clark County Coordinated Water Plan.

Facility improvements. Future water demand is calculated for the Vancouver water service area. Proposed improvements may include source improvements (new wells, pumps, or water treatment systems), improvements to existing booster stations, new or improved water storage facilities, and extension or upgrade of pipelines. A detailed description of current capital improvement projects is provided in the July 2003 update of the *Vancouver Water System Comprehensive Plan* (1996).

A significant planning effort is currently underway for the proposed Vancouver Lake Area Water Supply Facility. The City has proposed to acquire 20 acres of Port of Vancouver property adjacent to Vancouver Lake Park. This area has a prolific water supply aquifer suitable to provide long-term regional water supply needs. Negotiation of land purchase and technical studies are planned.

Six-year funding and projects. Table 5-8 provides information about costs of planned projects and funding over the next six years and longer to maintain or improve levels of service to Vancouver water customers.

Table 5-8 provides an estimate of the total amount to be spent on capital water projects in 2003 and over the next six years to ensure current or improved levels of service to Vancouver service area water customers.

Table 5-8. Water system capital projects and funding, ongoing and planned, 2003 to 2009.

Year	Total costs	Available funds
2003, budgeted	$2,903,000	
2004, budgeted	$5,317,000	
2005	$5,296,000	
2006	$7,481,000	
2007	$8,180,000	
2008	$10,290,000	
2009	$3,070,000	
Total 2003–2009	$39,467,000	More than $47,000,000

Sources: City of Vancouver, Washington Water and Sewer Rate Update and Storm Drainage Rate Study Volume II: Technical Appendices June 2004.

Analysis of revenue and expense indicates there are adequate operating reserves to fund ongoing facility replacement needs. System development charge revenues are more than adequate to fund expansion projects. Biannual review of utility rates will provide appropriate management review to keep rates current and proportional to capital facility improvement and maintenance needs.

Sanitary sewer

Sanitary sewer systems consist of neighborhood sewer lines that take waste from pipes serving individual properties, trunk lines that collect waste from these lines within individual drainage basins, and interceptors that receive flow from several drainage basins and route it to treatment facilities. Pump stations and force mains augment the system. Sanitary sewer service is a Tier I concurrency service in the City of Vancouver. For more detail refer to the *Vancouver Wastewater Collection System Comprehensive Master Plan*.

Vancouver's sanitary sewer system in 2003

The City of Vancouver provides wastewater services within city limits and in a portion of the unincorporated urban area northeast of the city limits, such as the Orchards and Sifton areas, as indicated in **Figures 5-8** and **5-9** on pages 5-28 and 5-29. The Vancouver service area includes several major wastewater drainage basins. The Hazel Dell Sewer District serves the northwest portion of the unincorporated VUGA that straddles I-5. The City of Vancouver sewer system comprises more than 650 miles of pipe that ranges from 6 to 54 inches in diameter. Wastewater flow is treated at the Westside Treatment Plant (WTP) and the Marine Park Treatment Plant (MPTP). The WTP also serves a City-owned industrial pretreatment lagoon, and the resulting ash is trucked to a solid waste landfill in Boardman, Oregon.

Residential and commercial wastewater flows can be shifted between WTP and MPTP, depending on available capacity. WTP treats wastewater from the Hazel Dell Sewer District. In addition to treating Vancouver wastewater, MPTP receives flows, primarily residential wastewater, from the southeastern section of Vancouver. Both treatment plants release treated water into the Columbia River. **Table 5-9** summarizes current average flows and total capacities at the Vancouver treatment facilities. The combined average daily flow at the WTP and MPTP facilities in 2001 was approximately 20 MGD, or approximately 54 percent of the total capacity of 37 MGD.

Completion of the Septic Tank Elimination Program by 2023 (discussed below) will increase total system usage demand by approximately 1.35 MGD. Total projected demand in 2023, including new flow from the septic elimination program, is 31.05 MGD, well below the current capacity of over 37.0 MGD.

If the current average wastewater usage of approximately 80 gallons per person per day continues, the City of Vancouver's current wastewater capacity could accommodate a population of 216,000.

A hydraulic model for the major wastewater

Table 5-9. City of Vancouver treatment facilities, capacity, and flows in 2001.

Facility	Average daily flow capacity (in MGD)	Average daily flow (in MGD)	Maximum average daily flow (in MGD)
Westside Treatment Plant (WTP)*	21.0	11.0	12.6
Marine Park Treatment Plant (MPTP)	16.0	9.0	11.0
Industrial pretreatment	3.2	2.4	3.0

*Pretreatment flow is included in the flow data for the WTP.
Source: Vancouver Public Works Department, 2002.

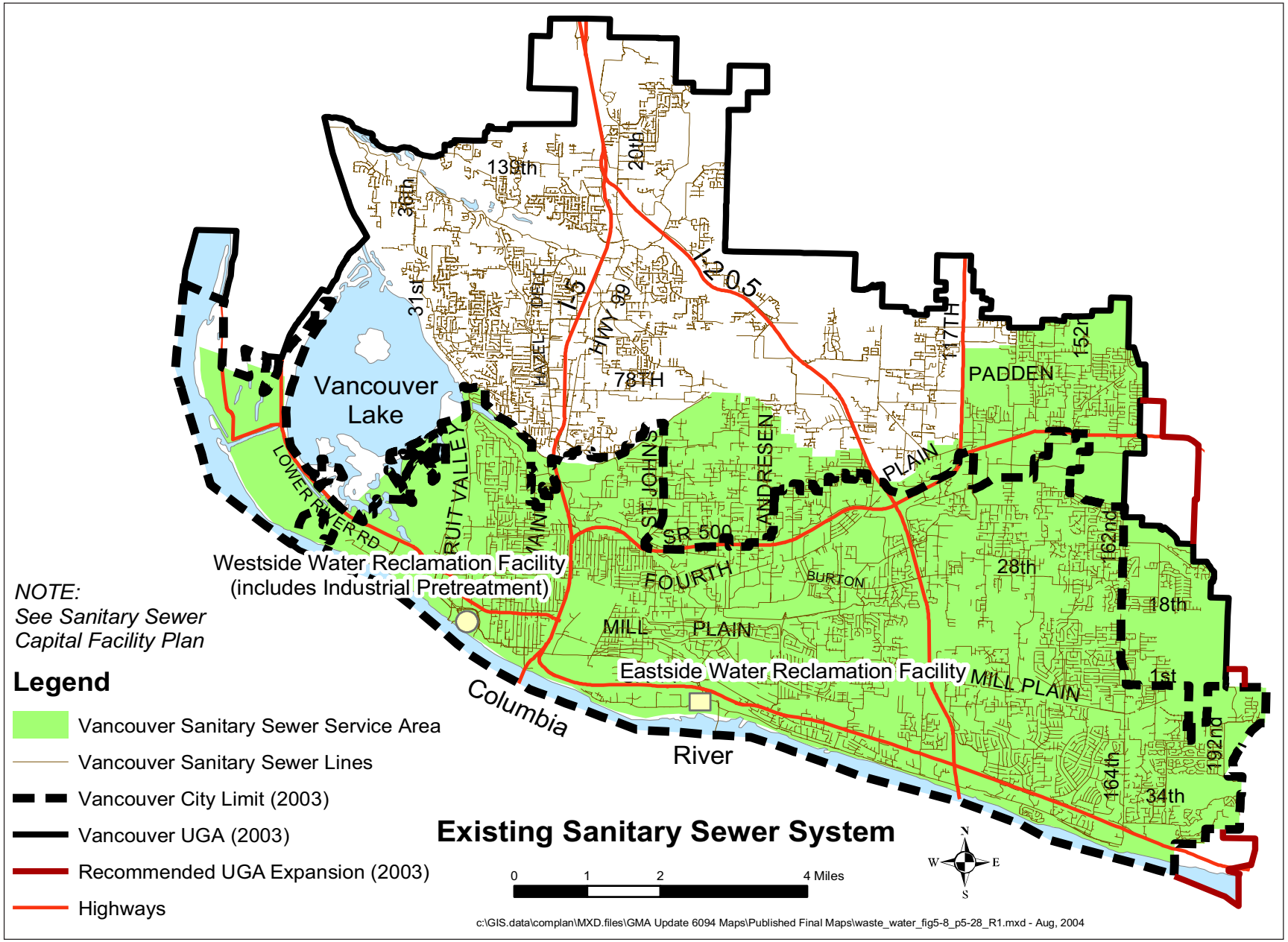

Figure 5-8. Existing sanitary sewer system. Source: City of Vancouver GIS.

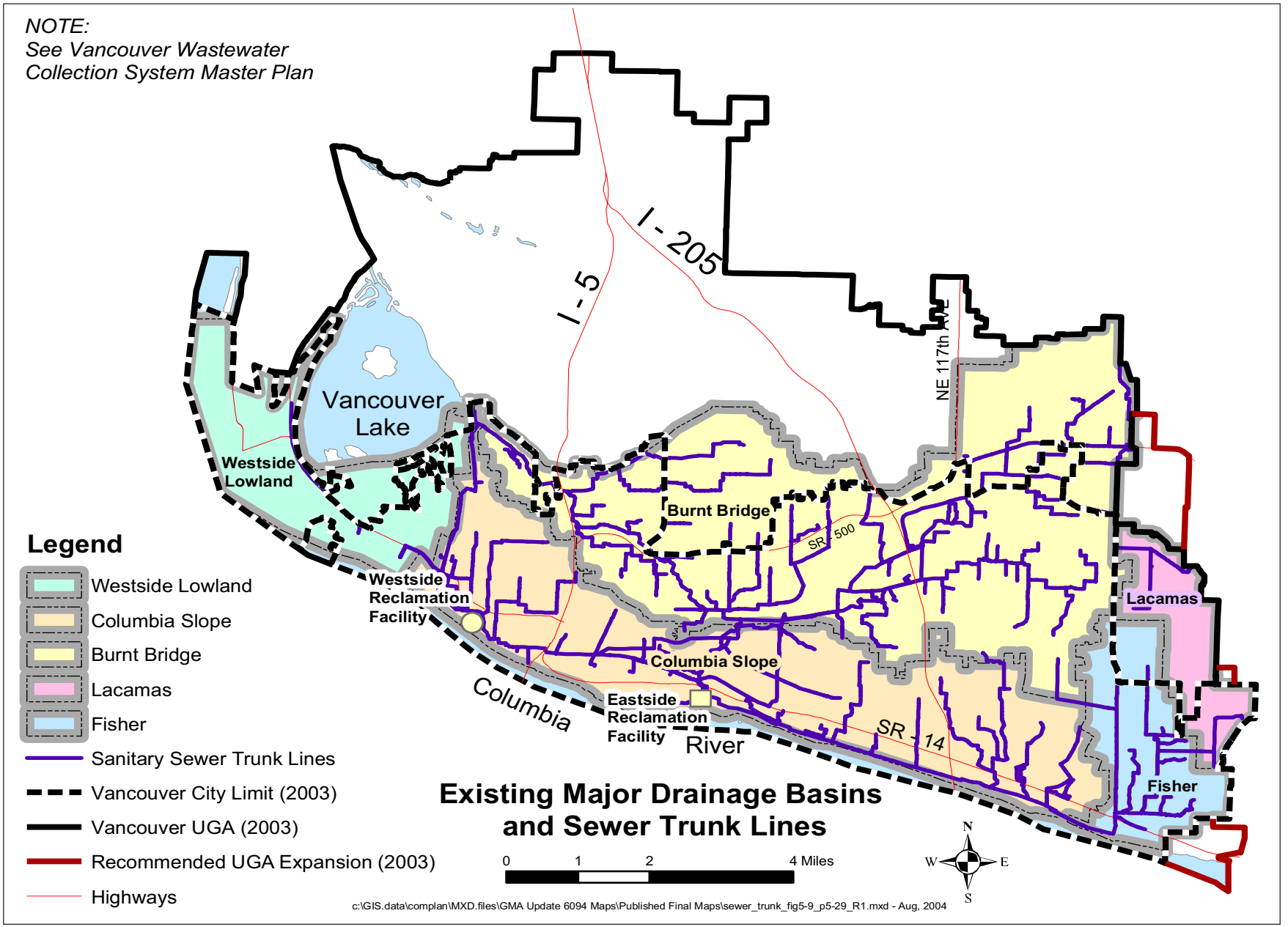

Figure 5-9. Existing major drainage basins and sewer trunk lines. Source: City of Vancouver GIS.

collection system was developed as part of the Wastewater Collection System Comprehensive Master Plan Year 2000 Update to determine whether the network of pipes, manholes, pumps, and other physical facilities were adequate to convey estimated flows from storms. The results indicated that, with the exception of a few areas of concern, the system is capable of conveying flows resulting from a one-in-five-year recurrence interval storm under 1999 conditions without compromising wastewater treatment. However, to accommodate projected 2017 and buildout flows under a five-year storm, the wastewater collection system will need upgrading.

Service standards

The existing sewer system meets all federal and state standards and has adequate capacity for existing and future demand. The sanitary sewer system is monitored by instrumentation, computer modeling, and tracking development trends so that sewer projects can be implemented before the mains reach capacity. Preventive maintenance keeps problem areas clean to minimize unexpected blockages.

On-site systems (septic tanks)

As of 2003, there are approximately 7,700 on-site sewage treatment or septic systems in the Vancouver sewer service area, serving 18,000 people and discharging over 1.35 MGD into the ground. Because most of the systems are more than 24 years old and reaching the end of their expected life spans, failures are increasing. Septic system failures may go undetected, allowing contamination of nearby streams, lakes, or shallow drinking water wells. Septic systems can also cause an increase in nitrates in groundwater. A Septic Tank Elimination Program (STEP) and Sewer Connection Incentive Program (SCIP), have been developed to protect water resources from failing systems and to help homeowners eliminate unreliable septic systems. The programs prohibit the addition of new septic systems in the Vancouver service area, extend sanitary sewers into areas served by septic systems, and provide affordable financing to homeowners to allow them to connect to the system.

Direction for the future

Table 5-10 shows planned sewer system improvements through 2023, grouped into categories of roadway coordination, collection system, pump station program, relief sewer program, substandard main program, and sewer connection incentive program. No treatment facility projects are proposed because there is sufficient capacity for the expected growth. Collection system projects after the sixth year have not been specifically identified because precise needs are difficult to forecast. The 2010-2022 column in the table simply uses the 2009 cost

factor as a reasonable annual multiplier to produce a rough estimate of long-term needs. The City has sufficient funding sources (fees, system development charges, grants) to cover the costs of the all proposed projects through 2009. Similar funding sources should continue to be available in the long-term to support future system improvement needs as they arise.

Roadway coordination. The City installs utilities in new roadways during construction when new or upgraded lines are needed.

Collection system. Developers extend most of the sewers in the City's system. This category covers projects that are system improvements, such as extensions across undevelopable land and oversizing of mains where it is necessary for the City to install the sewer main or to participate in the extra cost of installing a large pipe. The timing of these projects is somewhat dependent on development.

Pump Station Program. Projects involve upgrades at pump stations such as relocating a discharge main or installing a remote control system. The projects are also influenced by development.

Relief Sewer Program. Projects increase the capacity of the mains in the collection system by replacing the mains with larger pipe or installing new mains parallel to existing lines. Growth impacts the need for these projects. Existing flows are monitored and a computer model is used to time these projects. The program schedule shown in **Table 5-10** is an estimate based on current information and growth projections. Potential projects are shown in the table. Some of these will not be needed depending on actual development pattern in the basin.

Substandard Main Program. This program replaces substandard mains—typically old, leaky mains that are nearing the end of their life cycle. They usually require extensive preventive maintenance and will be replaced to reduce maintenance demands and potential backups. Sometimes old mains are replaced when roads are improved to reduce cutting new pavement.

Sewer Connection Incentive Program. This program is part of STEP, discussed above. As funds are available, sewers are extended into existing neighborhoods served by septic systems to provide the homeowners sewer service.

Table 5-10. Vancouver sanitary sewer capital programs and projects, 2003–2023, in thousands of dollars.

Program/project	2003	2004	2005	2006	2007	2008	2009	Total 2003 to 2009	Total 2010 to 2023*	Total 2003 to 2023
Roadway coordination	$1,558	$65	$885	$1,595	$390	$110	$600	$5,203	$7,800	$13,003
Collection system projects	$917	$1,680	$155	$355	$815	$125	$575	$4,622	$7,475	$12,097
Pump station program	$90	$100	$610	$80	—	$500	$100	$1,480	$1,300	$2,780
Relief sewer program	$144	—	$935	$575	$820	$1,925	$800	$5,199	$10,400	$15,599
Substandard program	$1,080	—	$300	$300	$690	$300	$480	$3,150	$6,240	$9,390
Subtotal	$3,789	$1,845	$2,885	$2,905	$2,715	$2,960	$2,555	$19,654	$33,215	$52,869
Sewer Connection Incentive Program	$2,944	$985	$1,600	$1,600	$1,600	$1,600	$2,000	$12,329	$26,000	$38,329
Total	**$6,733**	**$2,830**	**$4,485**	**$4,505**	**$4,315**	**$4,560**	**$4,555**	**$31,983**	**$59,215**	**$91,198**

* Uses the 2009 cost factor as a annual multiplier to produce a rough estimate of long-term needs ($600 x 13 years).
Source: Vancouver Public Works Department, 2003.

Stormwater

Inadequately managed stormwater runoff from streets and buildings can pollute lakes, streams, rivers and groundwater and cause erosion, flooding and other safety hazards. Because it picks up nutrients, metals, oil and grease and other forms of pollution, untreated stormwater can threaten drinking water, plants and animals that live in surface waters, and water-related recreation.

Vancouver's stormwater management in 2003

The City of Vancouver's goal is to maintain or improve surface and groundwater quality. Increased urbanization can make this goal difficult to meet. Increasing the amount of impervious surfaces (roadways, parking lots, driveways, and sidewalks) increases the amount of runoff and the potential for it to carry pollutants from erosion or chemical contamination to surface waters. Before it was fully understood how rainfall can replenish the supply of groundwater, stormwater runoff in most cities was collected in storm drainage pipes and sent to sewage treatment plants. Most of the older neighborhoods in Vancouver manage stormwater this way.

Vancouver's current approach to stormwater management is to require property owners to retain stormwater on site and treat it, usually by running it through vegetated areas where plants filter out and absorb pollutants, prior to its release into the ground or nearby surfacewater. This approach also reduces the risk of flooding along streams by regulating flow into the stream during storms. **Table 5-11** summarizes the existing stormwater management systems (both piped and natural) in Vancouver and the portion of the VUGA within the City's sewer service area. **Figure 10** shows Vancouver's existing stormwater lines.

Table 5-11. Storm drainage infrastructure in the City of Vancouver and the VUGA.

Open ditches	6 miles
Storm sewers	250 miles
Outfalls (estimate)	155
Catch basins (estimate)	10,000
Detention facilities*	30
Retention facilities*	None
Treatment facilities*	135
Regional facilities	6
Public infiltration facilities (infiltration basins or dry wells)	50 percent
Connections to WSDOT facility: SR-500 at I-5, I-205 at Andresen Road, at Thurston, and SR-14 at I-205	

*Estimated number operated by MS4

The City's surfacewater utility was created in the mid-1990s. Master planning efforts have resulted in several plans based on the drainage basins in Vancouver: the *Columbia Slope Plan* and the *Burnt Bridge Creek (BBC) Watershed Plan*. The *Columbia Slope Plan* was developed when the City's utility was established. The BBC plan was also completed in the mid-1990s as a joint city and county master plan but has not been formally adopted. Nonetheless, it influences decisions on stormwater management. The City's budget addresses many of the projects and property acquisitions for the surfacewater utility. Currently, the focus is on property acquisition and im-

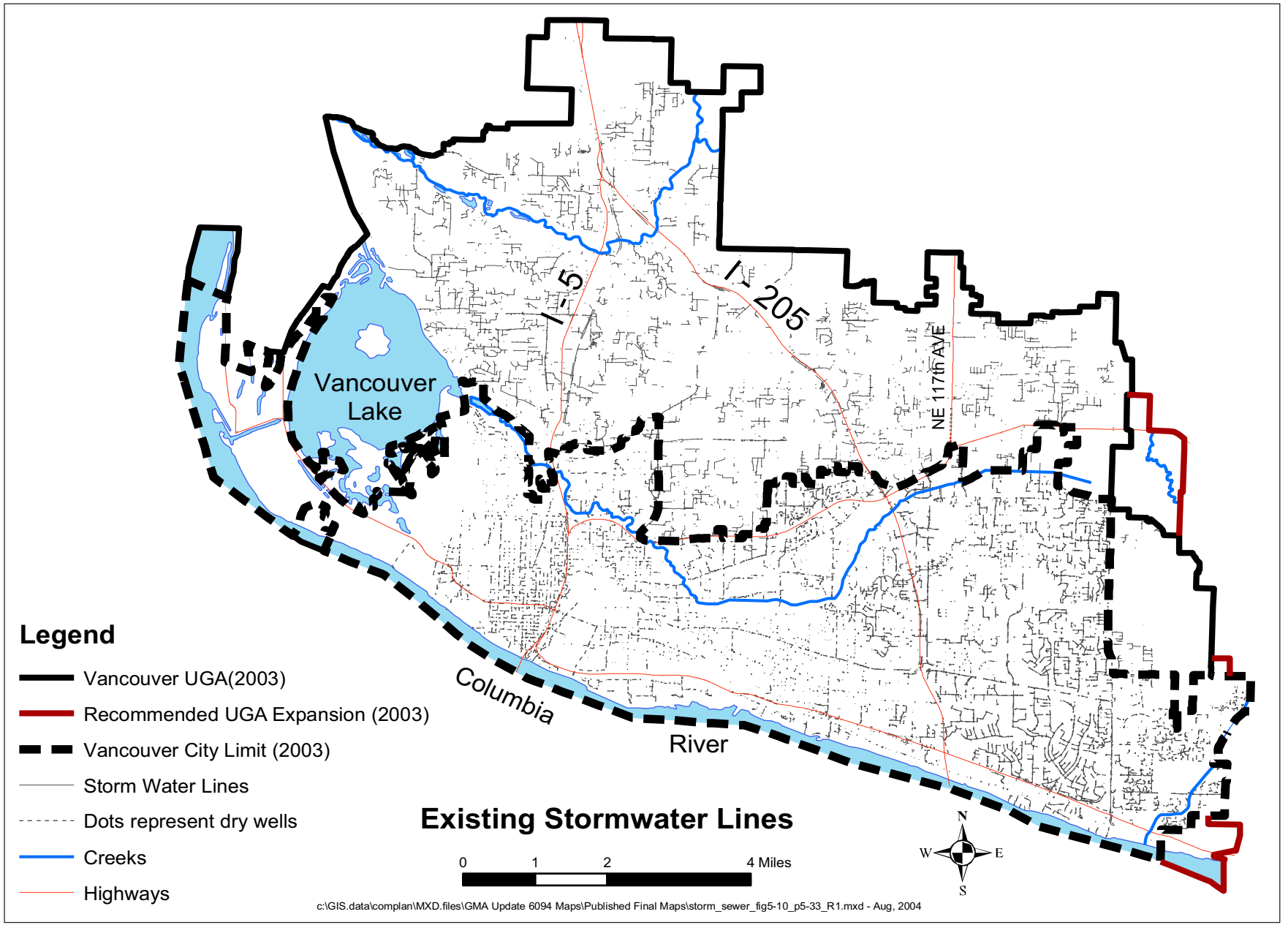

Figure 5-10. Vancouver's existing stormwater lines. Source: City of Vancouver GIS.

provements within the 100-acre BBC Greenway. Funding for stormwater management is also currently under review as part of a rate study to be completed in 2003. This study could have a dramatic effect on future utility funding.

With the on-site approach to managing stormwater, much of the stormwater system is private. That makes measuring the total capacity for city stormwater is difficult. What is known about overall capacity is that the geology for most of Vancouver allows for stormwater to infiltrate on site, so new development typically is able to provide water quality treatment and to discharge to stand-alone infiltration systems. However, geology and the infiltration capacity are different in areas north of the city limits within the unincorporated VUGA. In those parts of the VUGA, the groundwater table is high and saturated hydric soils abound, limiting the ability for stormwater to infiltrate and therefore constraining capacity for on-site management.

The City is currently working on design of the first phase of improvements to the BBC Greenway, that will enhance fish and wildlife habitat, provide trails for recreational access, and improve stormwater treatment before it reaches the creek. The Surface Water Management division is also conducting a comprehensive storm drainage rate study and completing the inventory and mapping of existing stormwater management facilities. Within the next six years, the City will update its National Pollution Discharge Elimination System (NPDES) permit.

Existing city stormwater management measures include:

- Shoreline Management Master Program (revised in 1997)
- Wetland Protection ordinance (VMC 20.50)
- Floodplain ordinance (VMC 20.51)
- Stormwater and Groundwater Protection sections of Title 14
- Tree Preservation ordinance (VMC 20.96)
- SEPA policies related to implementation of the Endangered Species Act
- Erosion control regulations that protect surface water quality
- Water Resources Protection ordinance (VMC 14.26)

Within the VUGA, Clark County manages stormwater through the application of a variety of regulations and plans:

- CCC 13.26A, Water Quality ordinance
- CCC 18.327, Flood Plain Combining District
- CCC 13.29, Stormwater and Erosion Control ordinance

New standards contained in the *Stormwater Management Manual for Western Washington* (2001) will require updating the standards in CCC 13.29 to maintain equivalency.

Future direction

Vancouver's stormwater management goal is to safely pass floodwaters and drainage in a manner that improves water quality, provides fish passage and habitat, promotes recreation opportunities, and enhances community aesthetics.

Objectives are to:

- Protect surface and groundwater from contamination.
- Protect people and property from flood damage.
- Protect aquatic life.
- Provide recreation opportunities, community aesthetics, and good neighbor facilities.
- Protect and enhance riparian and habitat areas.

Vancouver will work with private property owners to enhance the functioning of floodplains and riparian areas throughout the City and VUGA. Increased planting of native vegetation and removal of impervious surfaces will also enhance stormwater management.

For more information about City stormwater management systems, please see the *Vancouver Sewer System Master Plan*.

Parks and recreation

Before 1997, the City of Vancouver managed the park facilities within the city limits and also worked with Clark County to plan parks in the unincorporated VUGA and implement the Park Impact Fee Program. In 1997, the City of Vancouver and Clark County Parks Departments consolidated, creating the Vancouver-Clark Parks and Recreation Department (VCPRD), which is responsible for managing all parks, trails, greenways, and other park and recreation facilities in Clark County and the City of Vancouver.

The Vancouver urban growth area is divided into ten park planning and impact fee (PIF) districts (**Figure 5-11**). In 2002, the city revised and adopted the Vancouver Urban Parks, Recreation, and Open Space Plan on which this section is based and which is adopted by reference as part of this comprehensive plan.

Table 5-12 compares Vancouver's parks in 1994 and 2002.

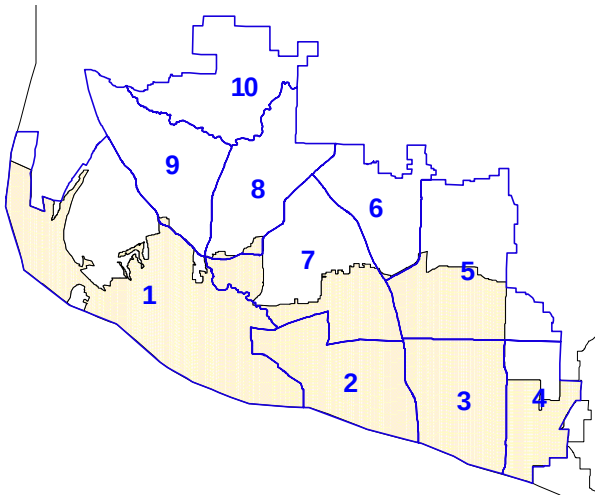

Figure 5-11. Vancouver's ten park planning districts.

Vancouver's park system in 2003

Urban park system. The urban park system includes small neighborhood parks (3 to 5 acres), community parks (15 to 100 acres), and open space within the VUGA. The acquisition standard for the urban park system is 6 acres per 1,000 people (5 acres for either neighborhood or community parks, plus 1 acre for urban open space). In 2000, the VUGA population was estimated at 251,348. Therefore, the amount of urban park land needed to meet the standard was 1,508 acres. VCPRD owned 1455 acres, a deficit of 53 acres.

The development standard for urban parks is 4.25 acres per 1,000 people, or a total need of 1,068 developed park acres in 2000. However, only 584 acres of the total owned by VCPRD was developed in 2000, for a deficit of 484 developed park acres. That is, almost one-half of the parks needed to meet the adopted standard have not yet been developed.

Neighborhood parks serve residential areas within a one-third to half-mile radius of the park site. The desirable size for a neighborhood park is normally 3 to 5 acres, but in built-out areas where land is scarce, smaller parks are acceptable. The acquisition standard is 2 acres/1,000 people or a total of 503 acres needed. VCPRD has 296 acres of developed neighborhood parks

Table 5-12. Park facilities within the City of Vancouver in 1994 and 2002.

	1994		2002	
Facility	**Quantity**	**Acres**	**Quantity**	**Acres**
Neighborhood parks (including schools)	39	163	72*	288
Community parks (including schools)	14	272	20*	361*
Urban open space	13	113	21*	199
Regional parks	2	99	2	99
Conservation and greenway systems	10	630	10	630
Community centers, meeting facilities, gardens, plazas, monuments, special areas and facilities	25	226	26	236

*Data as of May 31, 2001.
Sources: *Vancouver Parks, Recreation, and Open Space Plan* (1995); *Vancouver Urban Parks, Recreation, and Open Space Plan* (2002).

and 206 undeveloped neighborhood park acres.

Community parks serve groups of neighborhoods within a one- to three-mile radius of the park site. The minimum desirable site is 20 acres, and most would normally be less than 100 acres. The acquisition standard is 3 acres per 1,000 people, or a total of 754 acres needed. Currently, VCPRD has 288 acres of developed park and 398 acres undeveloped.

Neighborhood and community parks complement and expand on the services provided by school grounds. In certain areas, neighborhood and community parks are adjacent to schools or involve developing and upgrading the school site to serve both purposes.

Urban open space sites may or may not be improved but can include trails and trailheads, greenway corridors, community gardens, farmed areas, and areas within community or neighborhood parks if left in their natural state. The acquisition standard is 1 acre/1,000 people, or a total of 251 acres needed. Currently VCPRD has 267 acres of urban open space, a surplus of 16 acres.

Table 5-13 compares the planning standard for urban park acres to Vancouver in 1994 and 2000.

Regional park system. The standard for the regional park system is 10 acres per 1,000 people. In 2000, the county's population was 340,011, resulting in a need for 3,400 acres of regional facilities. However, the VCPRD owned only 2,300 acres, indicating a deficit of 1,100 acres.

There are several types of regional facilities. The adopted standard for each is described below. **Figure 5-12** shows the parks and trails in the Vancouver area.

- Regional trails are acquired and developed based on public need and available funding. There is no adopted standard for trails in the City of Vancouver. Currently VCPRD manages 52 miles of trails.
- Regional special facilities include boat launches, ball field complexes, swimming pools, archery ranges and historic sites. Acquisition and development is guided by public demand and available funding. There are no adopted standards for regional special facilities.
- Regional conservation and greenway systems serve various functions, including protection of environmentally sensitive areas and wildlife habitat, wildlife viewing, environmental education, and trails. Availability of funding and the threat to identified, high priority resource lands determine the rate at which the open space plan is implemented. There are no

Table 5-13. Urban park acres per 1,000 people, actual vs. adopted standards in 1994 and 2002.

	Acres per 1,000 people		
Category	**1994 actual**	**2002 actual**	**Standard**
Community parks	4.1	2.4	3.0
Neighborhood parks	2.5	2.4	2.0
Urban open space	1.3	1.1	1.0
Combined urban park acquisition standard	7.8	5.9	6.0
Combined urban park development standard	2.7	2.3	4.25

Data as of May 31, 2001.
Sources: *Vancouver Parks, Recreation, and Open Space Plan* (1995); *Vancouver Urban Parks, Recreation, and Open Space Plan* (2002).

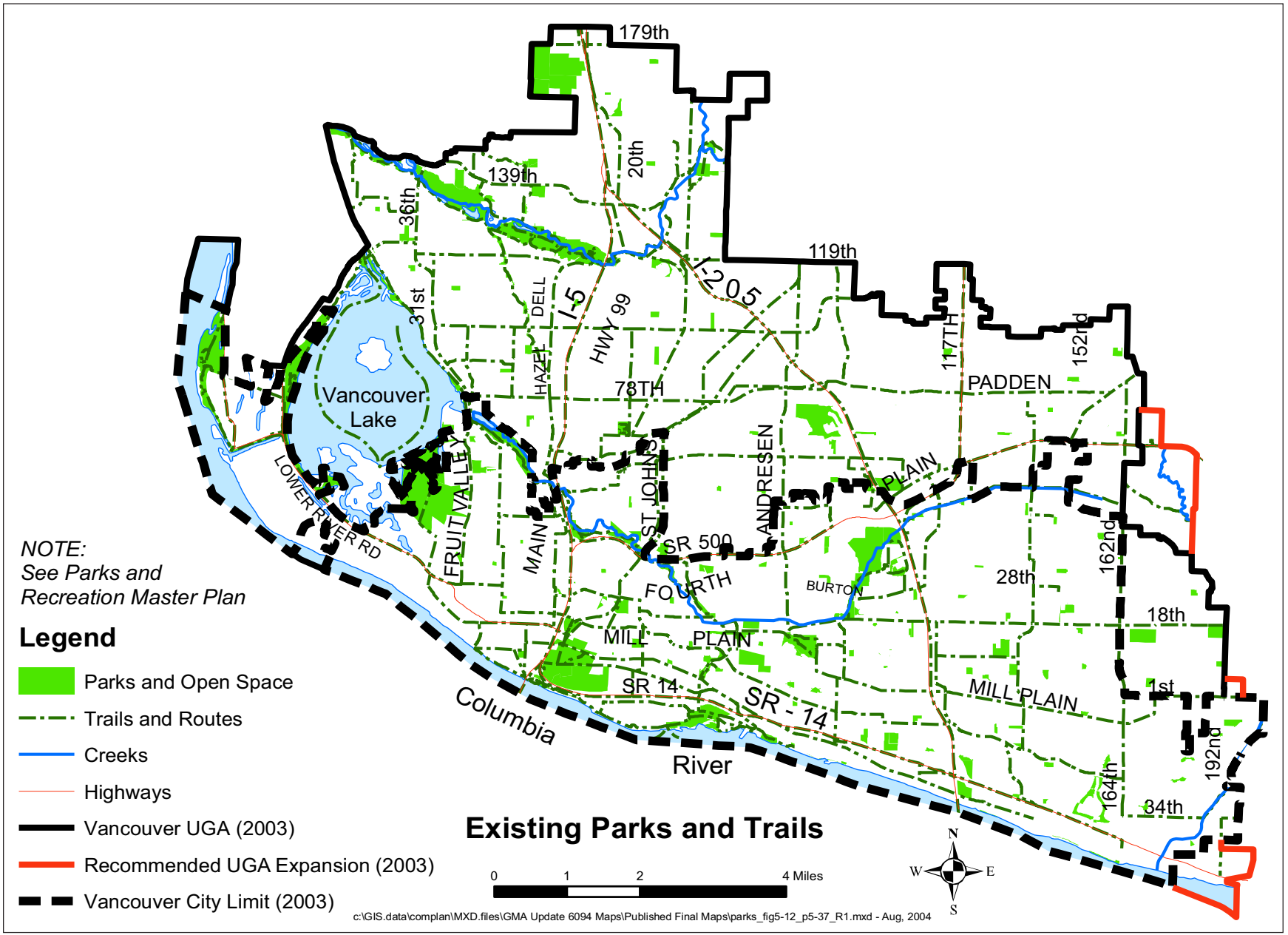

Figure 5-12. Existing parks and trails. Source: City of Vancouver GIS.

adopted standards for conservation and greenways. Currently, VCPRD manages 1,898 acres of conservation and greenway.

- Wildlife habitat is composed of land, water, vegetation, and other natural resources necessary to support fish and wildlife populations. Acquisition is based on the value of the resource, threat to the resource, partnership opportunities and on building significant ownership in priority areas sufficient to protect the resource.

Other agencies provide facilities that contribute to the regional system of open space, conservation areas, greenways, and special recreation facilities. Examples include:

- The National Parks Service operates the 209-acre Fort Vancouver National Historic Site, including a visitor's center and reconstructed fort, play area and parade ground.
- The US Fish and Wildlife Service manages the 5,149 acre Ridgefield National Wildlife Refuge in the Columbia River Lowlands west of Ridgefield, and the Steigerwald Lake Wildlife Refuge in Washougal. Recreational opportunities include wildlife observation, hiking, environmental education, fishing, and hunting.
- The Washington State Department of Fish and Wildlife (WDFW) manages five wildlife and hunting areas and several public access areas on the county's lakes and rivers.

Direction for the future

Need for capital facility improvements. As it grows, Vancouver will have to acquire and develop new parks. Although many of the parks will be in areas with high growth potential, several developed neighborhoods still lack fully developed parks. Over the next six years, the City needs to add 146 acres of parks to maintain the existing acquisition standard of 6 acres per 1,000 people. By 2023, the city will need to add 486 acres of parks to the existing 1,455 acres. **Figure 5-13** shows the proposed parks in Vancouver.

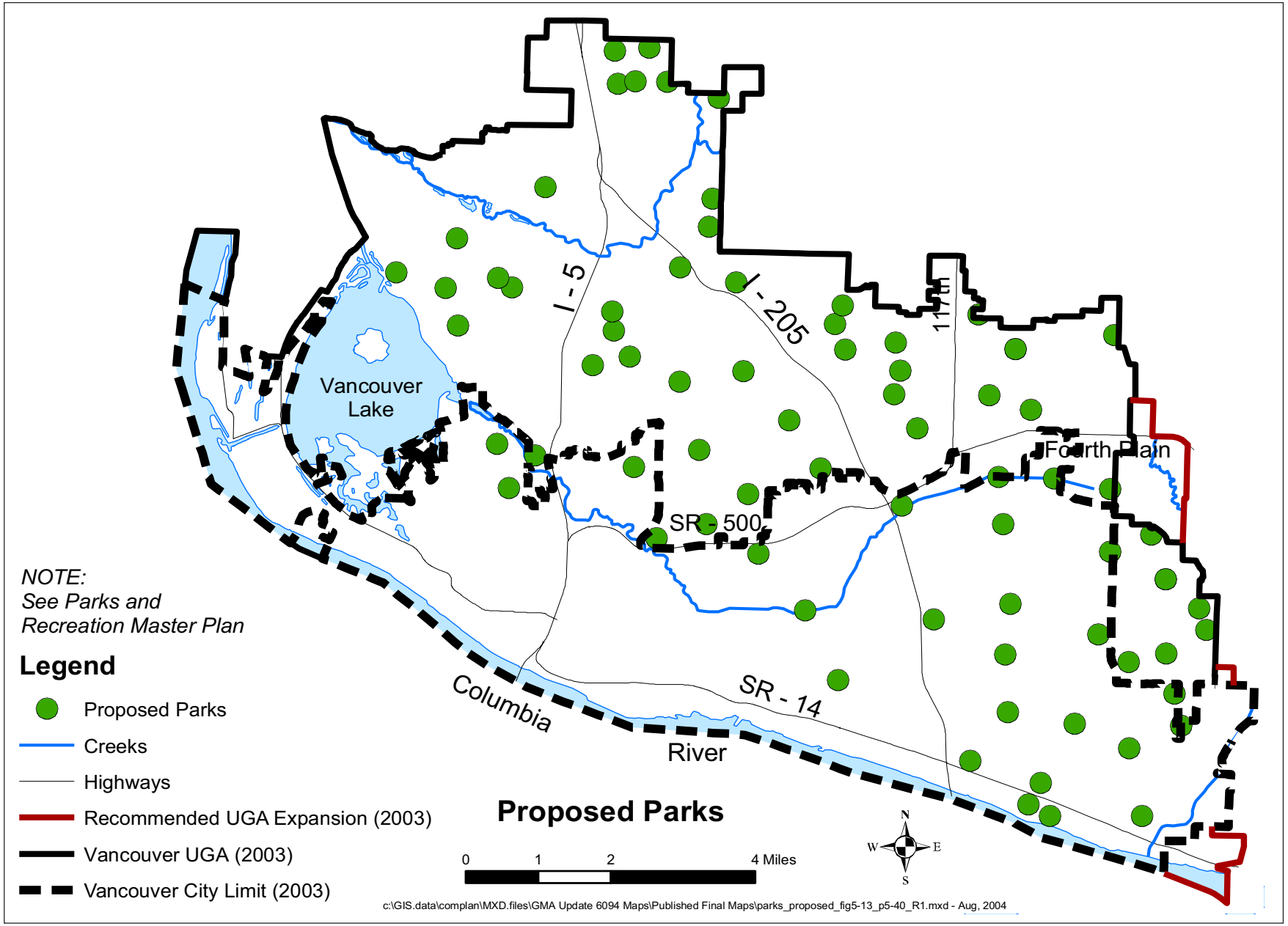

Figure 5-13. Proposed parks. Source: City of Vancouver GIS.

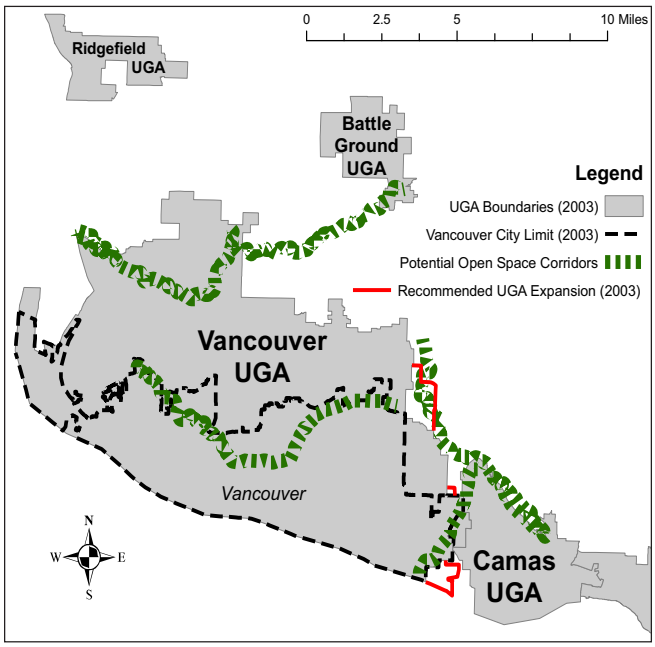

Figure 5-14. Existing and potential open space corridors in and around Vancouver UGA. Source: City of Vancouver GIS.

The County and City are committed to their joint urban parks program, including developing existing park sites and acquiring and developing new parks. Between 1997 and 2001, the program purchased 60 new park sites and developed 13 neighborhood and community parks. The *Vancouver Urban Parks, Recreation and Open Space Plan* (2002) lists all park projects considered by 2010. Projects are listed by park district, name, type of improvement, funding source and estimated cost. The plan also lists the total amount of funding for each funding source by year. A total of 181 projects are planned in the next six years, including:

- 64 urban park acquisitions
- 44 park development projects
- 36 miles of trails to be acquired or improved
- 14 recreation facility improvements
- 23 maintenance projects

Figure 5-14 conceptually identifies major open space corridors within and around the Vancouver UGA, consistent with GMA requirements of RCW 36.70A.160.

Funding. Parkland acquisition and development is funded locally either by park impact fees (PIFs) or a real estate excise tax (REET) of 0.25 percent. In addition, the VCPRD has aggressively pursued grant funding for acquisition and development. The REET is dedicated to eliminating park development deficits in established urban areas. PIFs are used to acquire and develop parks in developing areas.

As a part of the 2002 updated master plan, the City of Vancouver and Clark County have identified the methods to be used to acquire additional land and develop the parcels that have not been developed as parks. The REET will be continued, and the City anticipates an aggressive program of seeking grants, donations, bond issues and trust funds to support acquisition and development of parks, trails, urban open space and recreational facilities.

Although Clark County owns a substantial amount of park land in the VUGA, a large portion of it remains undeveloped, limiting recreational use. State and federal funds are available to acquire park sites. Sometimes these grants include the cost of park development. However,

the cost of maintaining facilities (including landscape maintenance, building maintenance, and maintenance of roads, trails, and parking facilities, as well as maintenance of recreational facilities) is not covered in these programs.

Table 5-14. Future park acreage needs based on adopted standards.

Park type	Standard (acres per 1,000 people)	Existing acreage	Acreage needed, 2004 to 2009	Acreage needed, 2010 to 2023
Community parks	3	686	139	431
Neighborhood parks	2	502	49	239
Urban open space	1	267	9	104
Regional parks	10	2,300	1,382	3,042
All parks combined	N/A	3,755	1,579	3,816

Project and financing plan.

Table 5-14 lists by park type the number of acres needed from 2004 to 2009, and from 2010 to 2023, to maintain adopted standards. For neighborhood parks, 49 acres are needed; for community parks, 139 acres; and for urban open space, 9 acres.

Table 5-15 identifies that the City estimates it will have approximately $51,507,000 available over the next six years to fund the necessary park improvements. Primary sources of funding for urban park acquisition and development include PIFs, REET, general obligation bonds, grants and donations. Maintenance of existing and new facilities is financed primarily through parking fees at regional parks and general fund dollars. Projects listed in **Table 5-15** are needed to meet the adopted standard. The cost of these projects totals approximately $52,901,000. Subtracting the six-year project costs from the available funding shows that there is a deficit of approximately $1,394,000.

Table 5-15. Six-year parks funding sources and costs, 2004 to 2009.

	2004	2005	2006	2007	2008	2009	Total
Projected funding							
REET	$3,970,000	$147,000	$147,000	$151,000	$154,000	$157,000	$4,726,000
Grants and donations	$2,425,000	$3,800,000	$1,900,000	$1,820,000	$1,620,000	$1,200,000	$12,765,000
Impact fees	$3,495,000	$3,544,000	$3,595,000	$1,885,000	$1,942,000	$1,300,000	$15,761,000
Bonds (community centers)	$18,000,000	—	—	—	—	—	$18,000,000
General capital	$25,000	$205,000	$25,000	—	—	—	$255,000
Total	**$27,915,000**	**$7,696,000**	**$5,667,000**	**$3,856,000**	**$3,716,000**	**$2,657,000**	**$51,507,000**
Projected costs							
Community parks	$4,853,000	$2,337,000	$15,000	$6,000	$59,000	$714,000	$7,984,000
Neighborhood parks	$4,224,000	$1,171,000	$1,378,000	$635,000	$1,300,000	$1,005,000	$9,713,000
Urban open space	$500,000	$200,000	$515,000	—	—	$150,000	$1,365,000
Trails	$2,399,000	$500,000	$950,000	$2,170,000	$6,770,000	—	$12,789,000
Community centers/facilities	$16,609,000	$4,054,000	$40,000	$239,000	$83,000	$25,000	$21,050,000
Total	**$28,585,000**	**$8,262,000**	**$2,898,000**	**$3,050,000**	**$8,212,000**	**$1,894,000**	**$52,901,000**
Balance	**($670,000)**	**($566,000)**	**$2,769,000**	**$806,000**	**($4,496,000)**	**$763,000**	**($1,394,000)**